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Gravitational Modulated Reheating

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In inflation models whose reheating occurs through gravitational particle production, only conformally noninvariant fields are created. In particular, fermions are created if and only if they have nonvanishing mass terms. Since mass terms are geerically proportional to the expectation value of the relevant Higgs field, its spatialy fluctuation gives rise to spatially fluctuating particle creation rate, which results in modulated reheating. We discuss implications of such gravitational modulated reheating and cauchate its predictions on nongaussianity.

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